

CLAIMS

1. (Currently Amended) A method, comprising:

receiving a first request by a load balancer at a content provider from a client over a network, wherein:

the first request includes a log session identifier (ID) and a first log ordering ID; and

the content provider includes a plurality of content servers;

processing the first request on a first content server of the plurality of content servers to find a first result;

incrementing the first log ordering ID to generate a second log ordering ID designated for use by the client in a second request to the content provider;

storing a log entry in a log on the first content server that includes:

the log session ID; and

the first log ordering ID or the second log ordering ID;

generating a first response at the content provider for communicating to the client over the network, wherein the first response includes:

the second log ordering ID designated for use by the client in a second request to the content provider; and

the first result of the processed first request;

receiving a second request by the load balancer at the content provider from the client, wherein the second request includes the log session ID and the second log ordering ID provided to the client in the first response;

processing the second request on a second content server of the plurality of content servers to find a second result;

incrementing the second log ordering ID to generate a third log ordering ID designated for use by the client in a third request to the content provider;

storing a log entry in a log on the second content server that includes:

the log session ID; and

the second log ordering ID or the third log ordering ID; and

generating a second response for communicating over the network to the client, wherein the second response includes:

the third log ordering ID designated for use by the client in a third request to the content provider;

the second result of the processed second request;

reporting an exception encountered during processing of the third request, the third request including the log session ID and the third log ordering ID;

requesting log entries from a content server that generated the exception and that match the log session ID and requesting log entries from a subset of other content servers that processed requests that chronologically precede the exception and that match the log session ID; [[and]]

utilizing the log entries to generate an exception report that provides a context of the exception, the context including identifying a source of the exception and describing how to remedy the exception; and

utilizing the log entries to generate a second report different from the exception report describing viewer usage patterns and viewer shopping patterns, the viewer usage

patterns including information relating to which programs a viewer watches, a frequency in which the viewer tunes in to watch programs, and a frequency in which the viewer changes channels, and the viewer shopping patterns including information relating to a frequency in which the viewer uses a home shopping application, a number of viewers who opened a catalog of a particular merchant, which items in the catalog attracted the most attention, and whether the viewers browsed the catalog multiple times.

2. (Canceled)

3. (Canceled)

4. (Original) A method as described in claim 1, further comprising:
initiating the log session; and
generating the log session ID.

5. (Original) A method as described in claim 1, wherein the log entry further comprises data that describes the processing of the request.

6. (Original) A method as described in claim 1, wherein the request is selected from the group consisting of:

an order for a good or service that is available for purchase; and

an order for content that is available for broadcast by the content provider.

7. (Canceled)

8. (Currently Amended) A content provider comprising a plurality of content servers, wherein a first content server of the plurality of content servers includes a processor and memory configured to maintain:

an application that is executable on the processor to:

process a first request from a client, the first request including a log session identifier (ID) and a first log ordering ID; and

increment the first log ordering ID to a second log ordering ID designated for use by the client in a second request to the content provider; and

a log for storing a log entry associated with the first request, wherein the log entry has:

the log session identifier (ID) that references a log session that includes the request;

data that describes an action performed in the processing of the first request, wherein the data is selected from the group consisting of:

data that had been included in the first request;

a time at which the first request was received by the application;

a description of the application;

an amount of time taken to process the first request; and

data that was included in a response to the first request; and

the first log ordering ID or the second log ordering ID representing the sequence in which each log entry was stored in the log by the content server and

unique for each action that was performed in the processing of the first request, wherein the second log ordering ID is designated for use by the client in a second request to the content provider;

wherein the first content server is further configured to generate a response for communication to the client in response to receiving the first request, the response including a result of the processing of the first request and the second log ordering ID designated for use by the client in a second request to the content provider; and

a central monitoring application that is executable on the processor to:

report an exception encountered during processing of the second request, the second request including the log session ID and the second log ordering ID;

request log entries from a content server that generated the exception and that match the log session ID and request log entries from a subset of other content servers that processed requests that chronologically precede the exception and that match the log session ID; [[and]]

utilize the log entries to generate an exception report that provides a context of the exception, the context including identifying a source of the exception and describing how to remedy the exception; and

utilize the log entries to generate a second report different from the exception report describing viewer usage patterns, the viewer usage patterns including information relating to viewer-watched television programs and the viewer shopping patterns including information relating usage of a home shopping application and viewer-accessed catalogues.

9. (Previously Presented) A content provider as described in claim 8, further comprising a load balancer that:

is communicatively coupled to the plurality of content servers; and

provides load balancing for the plurality of content servers for the processing of the first request from the client.

10. (Previously Presented) A content provider as described in claim 8, further comprising a log server to:

initiate the log session that includes the first request from the client; and

generate the log session ID that references the log session.

11. (Canceled)

12. (Original) A content provider as described in claim 8, wherein the log entry further comprises a client ID that identifies the client.

13. (Previously Presented) A content provider as described in claim 8, wherein the log entry is stored in the memory of the first content server that processed the first request.

14. (Previously Presented) A content provider as described in claim 8, wherein the first request is selected from the group consisting of:

an order for a good or service that is available for purchase; and

an order for content that is available for broadcast by execution of the application.

15. (Canceled)

16. (Currently Amended) A content provider, comprising:

a log server to initiate a log session with a client and generate a log session ID that references the log session;

a load balancer that provides load balancing of one or more requests received during the log session from the client over a network;

a first content server that is communicatively coupled to the load balancer, wherein the first content server includes a processor and memory configured to maintain one or more applications that are executable on the processor to:

process a first request from the client received from the load balancer by performing one or more actions to find a first result;

increment a first log ordering identifier (ID) to generate a second log ordering ID designated for use by the client in a second request to the content provider;

store a log entry on the first content server, the first log entry having:

the log session ID that references the log session;

data that describes one action, wherein the data is selected from the group consisting of:

data that had been included in the first request;

a time at which the first request was received by the application;

a description of the application;

an amount of time taken to process the first request; and

data that was included in a response to the first request; and

the first log ordering ID or the second log ordering ID that is unique for the one action;

generate a first response for communication to the client over the network, wherein the first response includes:

the second log ordering ID designated for use by the client in a second request to the content provider; and

the first result of the processed first request;

a second content server that is communicatively coupled to the load balancer, wherein the second content server includes a processor and memory configured to maintain one or more applications that are executable on the processor to:

process a second request from the client received from the load balancer by performing one or more actions to find a second result, wherein the second request includes the log session ID and the second log ordering ID provided to the client in the first response;

increment the second log ordering ID to generate a third log ordering ID designated for use by the client in a third request to the content provider;

store a log entry in a log on the second content server that includes:

a client ID that identifies the client that provided the second request;

the log session ID; and

the second log ordering ID or the third log ordering ID;

generate a second response for communication over the network to the client, wherein the second response includes:

the third log ordering ID designated for use by the client in a third request to the content provider; and

the second result of the processed second request; and

a central monitoring application configured to:

receive a report regarding an exception encountered during processing of the third request, the third request including the log session ID and the third log ordering ID; and

receive a second report different from the exception report describing viewer usage patterns and viewer shopping patterns, the viewer usage patterns including information relating to which programs a viewer watches, a frequency in which the viewer tunes in to watch programs; and the frequency in which the viewer changes channels, and the viewer shopping patterns including information relating to a frequency in which the viewer uses a home shopping application, a number of viewers who opened a catalog of a particular merchant, which items in the catalog attracted the most attention, and whether the viewers browsed the catalog multiple times.

17-34. (Canceled)

35. (Currently Amended) A system, comprising:

a set-top box communicatively coupled to a network, and including a processor and memory that is configured to maintain an interface application that is stored in the memory and is executable on the processor to communicate one or more requests comprising an order for a good or service that is available for purchase or an order for content that is available for broadcast by a content provider over a network; and

the content provider that is communicatively coupled to the set-top box over the network, and including:

a log server to initiate a log session with the set-top box and to generate a log session ID that references the log session;

a load balancer that provides load balancing of the one or more requests received during the log session from the set-top box over the network; and

a plurality of content servers that are communicatively coupled to the load balancer, wherein a first content server of the plurality of content servers includes a processor and memory that is configured to maintain one or more applications that are executable on the processor to:

process a first request to find a first result;

increment a first log ordering identifier (ID) received from the set-top box with the first request to generate a second log ordering ID designated for use by the set-top box in a second request to the content provider;

store a log entry on a log in the memory of the first content server that processed the first request, wherein the log entry has:

a set-top box ID that identifies the set-top box that communicated the first request;

the log session identifier (ID) that references the log session;

data that describes an action performed in the processing of the first request; and

the first log ordering ID or the second log ordering ID designated for use by the set-top box in a second request to the content provider, wherein the log ordering IDs represent the sequence in which log entries are stored by the plurality of content servers; and

generate a response for communication to the set-top box over the network, wherein the response includes the first result of the processing of the first request and the second log ordering ID designated for use by the set-top box in a second request to the content provider; and
a central monitoring application configured to:

receive a report regarding an exception encountered during processing of the second request, the second request including the log session ID and the second log ordering ID; and

receive a second report different from the exception report describing viewer shopping patterns, the viewer shopping patterns including information relating to a frequency in which the viewer uses a

home shopping application, a number of viewers who opened a catalog of a particular merchant, which items in the catalog attracted the most attention, and whether the viewers browsed the catalog multiple times.

36-42. (Canceled)

43. (Previously Presented) A content provider as described in claim 16, wherein the central monitoring application is further configured to:

request log entries from a content server that generated the exception and that match the log session ID and request log entries from other content servers that processed requests that chronologically precede the exception and that match the log session ID.

44. (Previously Presented) A content provider as described in claim 43, wherein the central monitoring application is further configured to:

utilize the log entries to generate an exception report that provides a context of the exception, the context including identifying a source of the exception and describing how to remedy the exception.

45. (Previously Presented) A system of Claim 35, wherein the central monitoring application is further configured to:

request log entries from a content server that generated the exception and that match the log session ID and request log entries from other content servers that

processed requests that chronologically precede the exception and that match the log session ID.

46. (Previously Presented) A system of Claim 45, wherein the central monitoring application is further configured to:

utilize the log entries to generate an exception report that provides a context of the exception, the context including identifying a source of the exception and describing how to remedy the exception.